

GenCore version 4.5
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OM nucleic - nucleic search, using sw model

Run on:

August 28, 2002, 07:56:20 ; Search time 202.43 seconds
(without alignments)
13154.840 Million cell updates/sec

Title: US-08-711-417c-165

Perfect score: 1551

Sequence: 1 ATGGATGCTGACGAGGTCA.....ACCGTTCACATGAGCTAA 1551

Scoring table: IDENTITY_NUC

Gapop 10.0 , Gapext 1.0

Searched: 1736436 seqs, 858457221 residues

Total number of hits satisfying chosen parameters: 3472872

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

N_Geneseq_032802:*

- 1: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1980.DAT:*
- 2: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1981.DAT:*
- 3: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1982.DAT:*
- 4: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1983.DAT:*
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- 6: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1985.DAT:*
- 7: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1986.DAT:*
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- 10: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1989.DAT:*
- 11: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1990.DAT:*
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- 13: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1992.DAT:*
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- 15: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1994.DAT:*
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- 19: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1998.DAT:*
- 20: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA1999.DAT:*
- 21: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA2000.DAT:*
- 22: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA2001A.DAT:*
- 23: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA2001B.DAT:*
- 24: /SIDSI/gcgdata/hold-geneseq/geneseq-emb1/NA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Match	Length	ID	Description
1	1551	100.0	1551	19	AAV42840
2	1468.8	94.7	6439	21	AACT6542
3	1386	89.4	1386	17	AAAT16060
4	1386	89.4	1386	19	AAV66969
5	1382.4	89.1	1611	15	AAQ44980
6	1379.6	88.9	1386	19	AAV42806
7	1174.8	75.7	2049	17	AAAT16062
8	1174.8	75.7	2049	19	AAV66971
9	1174.8	75.7	2049	19	AAV42808

10	868	56.0	1004	17	AAAT16065	Ikaros cDNA. Not
11	868	56.0	1004	19	AAV66974	Ikaros isoform enc
12	868	56.0	1004	19	AAV42811	Human Ikaros cDNA.
13	813.2	52.4	1788	15	AAQ44979	Murine Ikaros gene
14	813.2	52.4	1788	17	AAAT16059	Murine Ikaros cDNA
15	813.2	52.4	1788	19	AAV66968	Murine Ikaros cDNA
16	811.6	52.3	1788	19	AAV42805	Murine Ikaros isoform
17	689.4	44.4	1296	17	AAAT16061	Murine Ikaros isoform
18	689.4	44.4	1296	19	AAV66970	Murine Ikaros cDNA
19	689.4	44.4	1296	19	AAV42807	Murine Ikaros isoform
20	680	43.8	714	19	AAV67120	Murine Ikaros isoform
21	577	37.2	1170	17	AAAT16063	Ikaros protein enc
22	577	37.2	1170	19	AAV66972	Murine Ikaros cDNA
23	573.8	37.0	1170	19	AAV42809	Murine Ikaros cDNA
24	458.2	29.5	1128	17	AAAT16064	Murine Ikaros isoform
25	458.2	29.5	1128	19	AAV66973	Murine Ikaros cDNA
26	458.2	29.5	1128	19	AAV42810	Murine Ikaros isoform
27	457.2	29.5	708	19	AAV67119	Ikaros protein enc
28	411.8	26.6	1984	20	AAZ10900	Murine Helios-1 cd
29	408.6	26.3	1984	18	AAAT60490	Murine Helios-2 cd
30	404.2	26.1	1598	20	AAZ11960	Human Helios-2 cd
31	401.6	25.9	1927	20	AAZ11963	Murine embryonic b
32	329.6	21.3	1520	20	AAZ11962	Ikaros protein enc
33	324	20.9	2688	21	AAAT12375	Murine embryonic b
34	255	16.4	255	19	AAV67127	Ikaros protein enc
35	234	15.1	270	19	AAV67128	Murine embryonic b
36	223.2	14.4	295	21	AAAT12377	Human Aiolos parti
37	216.4	14.0	628	18	AAAT60491	Human Aiolos cDNA
38	216.4	14.0	628	20	AAZ10895	Human Aiolos cDNA
39	168	10.8	168	19	AAV67126	Ikaros protein enc
40	145.8	9.4	514	22	AAAS26017	Human cDNA encodin
41	145.8	9.4	523	22	AAAS26649	Human genomic DNA
42	145.8	9.4	523	22	AAAS26650	Human genomic DNA
43	145.8	9.4	523	22	AAAS26651	Human genomic DNA
44	140.8	9.1	168	19	AAV67125	Ikaros protein enc
45	135	8.7	135	19	AAV67122	Ikaros protein enc

ALIGNMENTS

RESULT 1

AAV42840

ID AAV42840 standard; cDNA; 1551 BP.

AC AAV42840;

XX

DT 11-JAN-1999 (first entry)

XX

XX Human Ikaros isoform h1k-1 cDNA.

XX

XX Ikaros; h1k-1; transcription factor; human; lymphocyte; cell differentiation; T cell; cancer; immunodeficiency; Alzheimer's disease; therapy; diagnosis; ss.

XX Homo sapiens.

XX

XX Key

XX Location/Qualifiers

FT exon

FT i..26

FT /tag= a

FT /number= Ex1

FT 27..163

FT /tag= b

FT /number= Ex2

FT 164..420

FT /tag= c

FT /number= Ex3

FT 421..588

FT /tag= d

FT /number= Ex4

FT 589..714

FT /tag= e

FT /number= Ex5

FT exon 715..849
FT /*tag= d
FT /number= Ex6
FT 850..1551
FT /*tag= e
FT /number= Ex7

XX CA2194256-A.

XX PN 05-MAR-1998.

XX PD 02-JAN-1997; 97CA-2194256.

XX PF 05-SEP-1996; 96US-0711417.

XX PR (GEHO) GEN HOSPITAL CORP.

XX PA Georgopoulos K;

XX PI WPI; 1998-378292/33.

XX DR P-PSDB; AAW70971.

XX New nucleic acid encoding Ikaros protein involved in early
XX differentiation of lymphocytes - existing in several isoforms, and
XX related products, used to treat e.g. immune diseases or cancer and
XX to control cell differentiation

XX Claim 1; Page 127-129; 158pp; English.

XX This is the nucleotide of human Ikaros CDNA (isoform h1k-1) that
XX codes for a 516-amino acid zinc finger protein (see AAW70971) that is
XX involved in the early differentiation of lymphocytes. It was
XX isolated from a Jurkat T cell line library using mouse Ikaros exon
XX 7 CDNA as probe. The Ikaros gene maps between p11.2-p13 on human
XX chromosome 7. The human and murine Ikaros sequences (see AAW42805-11
XX and AAW42840) are highly conserved. Differential splicing of Ikaros
XX gene transcripts gives rise to different Ikaros protein isoforms.
XX The invention provides Ikaros nucleic acids, vectors and host cells
XX expressing Ikaros proteins. These are used to treat T and B cell
XX diseases (e.g. immune deficiencies caused by drugs, radiation or
XX cancers), to control expression of heterologous genes placed under
XX control of an Ikaros-responsive element, to treat nervous system
XX diseases (e.g. Alzheimer's disease) and to modulate cell division,
XX amplification or differentiation, especially in haematopoietic
XX cells. Some Ikaros isoforms are antagonistic of others and may be
XX used to inhibit interaction with DNA sequences. The same effect
XX can be achieved with Ikaros-binding oligonucleotides. Examining
XX the expression of the Ikaros gene, or its allelic structure, can be
XX used to assess risk of acquiring the above diseases.

XX Sequence 1551 BP; 393 A; 450 C; 443 G; 265 T; 0 other;

Query Match 100.0%; Score 1551; DB 19; Length 1551;
Best Local Similarity 100.0%; Pred. NO. 0;
Matches 1551; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGGATCTGACGAGGGTCAAGACATGTCTTCTCATCAGGAGGAAAGCCCTGTA 60
DB 1 atggatctgacgaggggtcaagacatgtcttctcatcaggaagaaagccctctga 60
QY 61 AGCGATATCTCCAGATGAGGCGCATGAGCCCATGCGGATCCCGAGGACCTCTCCACCA 120
DB 61 agcgatactcagatgagggcgatgagcccatgcccagatcccgaggacctctcaccac 120
QY 121 TCGGAGGACAGCAAGCTCCAGAGTGCACAGATGCTGGCCAGTAAATGTAAGTAGAG 180
DB 121 tcggaggacagcaagctccagagtgacagatcggtgccagtaattgtaagtagag 180
QY 181 ACTCAGAGTGATGAAGAGATGGCGCTGCTGTGAATGAATGGGAGAGATGTCCGGAG 240
DB 181 actcagagtatgaagagatggcgctgctgtgaaatgaatgaggaaagatgtcgagg 240

Db 1321 aactcgcagcgcctccgctggtcagcaccagcggggagcagatgaaggtgtacaag 1380
 QY 1381 TCGGAACACTGCGGGGTGCTTCTCTGATCATCAGCTCATGTACACATCCACATGCGGTGC 1440
 Db 1381 tgcgaacactgcgggtgctctctcgtgacacgtcatgtacacatccacatgggctgc 1440
 QY 1441 CACGGCTCCGNGATCCCTTTGAGTGCAACATGTGCGGCTACACAGCCAGGACCGGTAC 1500
 Db 1441 cagggctccgtgaccccttttgatgcaacatgtcgccctaccacagcagaccggtac 1500
 QY 1501 GAGTCTCTCGTCCACATCAACGCGAGGAGCAGCGCTTCCACATGACGTAA 1551
 Db 1501 gaggttctcgcacataacgcgaggggagcaccgctccacatgagctaa 1551

RESULT 2

ID AAC76542
 AC AAC76542 standard; cDNA; 6439 BP.

XX AAC76542;

DT 08-FEB-2001 (first entry)

XX Human ORFX ORF2097 polynucleotide sequence SEQ ID NO:4193.

XX Human; open reading frame; ORFX; detection; cytotatic; hepatotropic;
 KW vulnary; antipsoriatic; antiparkinsonian; nootropic; neuroprotective;
 KW anticonvulsant; osteopathic; antiarthritic; immunosuppressant; cardiac;
 KW immunostimulant; thrombolytic; coagulant; vasotropic; antidiabetic;
 KW hypotensive; dermatological; immunosuppressive; antiinflammatory;
 KW antiviral; antibacterial; antifungal; antirheumatic; antithyroid;
 KW antianemic; gene therapy; cancer; proliferative disorder; hypertension;
 KW neurodegenerative disorder; osteoarthritis; graft vs host disease;
 KW cardiovascular disease; diabetes mellitus; hypothyroidism; SCID; AIDS;
 KW cholesterol ester storage; systemic lupus erythematosus; infection;
 KW severe combined immunodeficiency; malaria; autoimmune disorder; asthma;
 KW allergy; aplastic anaemia; nocturnal haemoglobinuria; burn; wound;
 KW bone damage; cartilage damage; antiinflammatory disease; coagulation;
 KW thrombosis; contraceptive; ss.

OS Homo sapiens.

XX W0200058473-A2.

PN 05-OCT-2000.

XX 31-MAR-2000; 2000WO-US08621.

XX 31-MAR-1999; 99US-0127607.

PR 02-APR-1999; 99US-0127636.

PR 05-APR-1999; 99US-0127728.

PR 30-MAR-2000; 2000US-0540763.

XX (CURA-) CURAGEN CORP.

XX Shinkets RA, Leach M;

PI WPI; 2000-602362/57.

XX P-PSDB; ABA42333.

DR Novel nucleic acids and peptides derived from open reading frame X,

PT useful for treating e.g. cancers, proliferative disorders,

PT neurodegenerative disorders and cardiovascular disease -

XX Claim 5; Page 3386-3390; 5507pp; English.

XX AAC74446 to AAC77606 encode the proteins given in AAB40237 to AAB43397,

XX which represent the human ORFX open reading frames 1 to 3161. The ORFX

CC sequences have activities such as: cytotatic; hepatotropic; vulnary;

CC antipsoriatic; antiparkinsonian; nootropic; neuroprotective;

CC osteopathic; anticonvulsant; antiarthritic; immunosuppressant;

CC immunostimulant; cardiac; thrombolytic; coagulant; vasotropic;

CC antidiabetic; hypotensive; dermatological; immunosuppressive;
 CC antiinflammatory; antibacterial; antiviral; antifungal; antirheumatic;
 CC antithyroid; and antianemic. The sequences can be used for determining
 CC the presence of or predisposition to, or preventing or treating
 CC pathological conditions associated with an ORFX-associated disorder. The
 CC nucleic acids can be used to express ORFX proteins in gene therapy.
 CC vectors. The proteins and nucleic acids may be used to treat cancers,
 CC proliferative disorders, neurodegenerative disorders, osteoarthritis,
 CC graft vs host disease, cardiovascular disease, diabetes mellitus,
 CC hypertension, hypothyroidism, cholesterol ester storage, systemic lupus
 CC erythematosus, severe combined immunodeficiency (SCID), AIDS, viral,
 CC bacterial or fungal infection, malaria, autoimmune disorders, asthma,
 CC allergies, aplastic anaemia, burns, wounds, bone and cartilage damage,
 CC nocturnal haemoglobinuria, antiinflammatory disease; to enhance
 CC coagulation; to inhibit thrombosis; and as a contraceptive.

XX Sequence 6439 BP; 1721 A; 1568 C; 1498 G; 1652 T; 0 other;

Query Match 94.7%; Score 1468.8; DB 21; Length 6439;
 Best Local Similarity 97.7%; Pred. No. 0;
 Matches 1524; Conservative 0; Mismatches 27; Indels 9; Gaps 3;

QY 1 ATGGATGCTGACGAGGGTCAAGACATGTCTTCTATCATCAGGGAAGAAAGCCCCCTGTA 60
 Db 169 atggatgctgtaggggtcaagacatgtctcccaagtttcagggaagaaagccccctgta 228
 QY 61 AGCGATATCCAGATGAGGCGGATGAGCCCATGCGGATGCCCGAGGACCTCTCCACACACC 120
 Db 229 agcgatattccagatgagggcgatgagcccatgcccgcgagacacctccaccacc 288
 QY 121 TCGGGAGGACAGCAAGCTCCCAAGATGACAGAGTCGTGGCGCAATGTTAAAGTAGAG 180
 Db 289 tcgggagagacaaagctcccaagagtgacagagtcgtggccagtaattgtaaaagtagag 348
 QY 181 ACTCAGATGATGAAGAAATGGCGCTGCCCTGTGAATGAATGGGGAAGAAATGTGGCGAG 240
 Db 349 actcagatgataagaaatggcgctgtgaaatgaatggggaagatgtcgaggag 408
 QY 241 GATTTACGAATGCTTGTGCTCGGAGAGAAATGAATGCTCCACAGGAGCAAGGC 300
 Db 409 gatttcaagaatgctgtgctcggagagaaatgaatggctccacagggaccaggc 468
 QY 301 AGCTCGGCTTGTGCGGAGTTGGAGGCAATTCGACTTCTTAACGGAAACTAAAGTGTGAT 360
 Db 469 agctcggcttgtcggagttggagggcatttcgacttccctaacggaaactaaagtgtgat 528
 QY 361 ATCTGTGGGATCATTTGCATCGGCGCCCAATGTGCTATGTTTCACAAAAGAGCCACACT 420
 Db 529 atctgtgggatacttgcacatcgggcccaatgtgctcattccaccacagagggcaacct 588
 QY 421 GGAGAACGGCCCTTCCAGTGCATTCAGTGGGGGCGCTCATTCACCCAGAGGCAACCTTG 480
 Db 589 ggagaacggcccttccagtgcaatcagtcgaggcctcattccaccacagagggcaacct 648
 QY 481 CTCGGGCACATCAAGCTGCATTCGGGGAGAGCCCTTCAATGCGACACTCTGCAACTAC 540
 Db 649 ctccggcacatcaagctgcatcccgggagagccttcaaatgccaactctgcaactac 708
 QY 541 GCCTGCCCGCGGAGGAGCGCCCTCACTGGCCACTTCAGGAGCACTCCCTTGGTAAACT 600
 Db 709 gcctgccgcgagggagcgcctcactggccacctggagcgcactccgttggtaaacct 768
 QY 601 CACAATGTGGATTTGTGGCCGGAAGCTATAACAGCGCAACCTTTTATAGAGGAACATAAA 660
 Db 769 cacaatgtggattgtggcgaagctataaacagcgaagctcttttagaggaacataaa 828
 QY 661 GAGCGGTGCCACAACTACTTGGAAAGCATGGGCCCTTCGGGCGACACTGTACCCAGTCAAT 720
 Db 829 gagcgtgcacaactactctgaaagcatggccttcggcggaacactgtacccagtcatt 888
 QY 721 AAGAAGAACTAAGCACAGTGAATGGCAGAAAGACCTGTGCAAGATAGGATCAGAGAGA 780
 Db 781 aagaagaaactaagcacagtgaatggcagaaagacctgtgcaagataggatcagagaga

RESULT	3	
AAAT16060		
ID	AAAT16060 standard; cDNA; 1386 BP.	
XX		
AC	AAAT16060;	
XX		
DT	09-MAY-1996 (first entry)	
XX		
DE	Human Ikaros cDNA hIk-1.	
KW	Ikaros; transgene; transgenic animal; transgenic mouse; hIk-1;	
KW	immunocomprised; immune system disorder; nervous system disorder;	
KW	animal model; ss.	

	Query Match	89.4%	Score 1386;	DB 17;	Length 1386;
	Best Local Similarity	100.08;	Pred. No. 3.3e-301;		
	Matches 1386;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;
166	ATGTGTTAAAGTAGAGACTCAGAGTGAAGAGATGGCGCTGCTGGAATGAATGGG	225			
y					
b	1 aatgttaaagttagagactcagagtgaagagaatggcgtgcctcggaatgaatggg	60			
226	GAGAAATGTGCGGAGCATTTACGATGCTGTGATGGCTCGGAGAGAAATGAATGGCTCC	285			
y					
b	61 gaagaatgctgcggagatttaacgaatgcttgatgctcgggagagaaatgaatggctcc	120			
286	CACAGGACCAAGCGACGCTCGGCTTTGTGGGAGTGGAGGATTCGACTTCTCAACGGA	345			
y					
bb	121 cacagggaaccaagcgagctcgctcttgcggagttggaaggcatcgactcctcaacgga	180			
346	AAACTAAAGTGTGATATCTGTGGGATCATTTGCATCGGGCCCCAAATGTCATGTTCAAC	405			
y					
bb	181 aaactaaagtgtgatacctgtgggatacttgcatcggcccaatgctcatgggtcac	240			
406	AAAAAGAACCCCACTGGAGAACGGCCCTTCCAGTGCAAATCAGTCGGGGCCTCATTCACC	465			
y					

Query Match	89.4%	Score 1386;	DB 17;	Length 1386;
Best Local Similarity	100.08;	pred. No. 3.3e-301;		
Matches 1386;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;
166	AATGTTAAAGT	GAGACTCAGAGT	GCATGAGAGAAATGGCGTGCCTGTGAAATGAATGGG	225
b	1	aatgttaaagt	agagactcagtgatgaagaagaatgagcgtgcctgtgaatgaatggg	60
226	GAAGAAATGTGCGAGAGATTTACGAATGCTTGCTCGGGAGAGAAATGAATGGCTCC	285		
y				
61	gaagaatgtgcggagattta	cgaatgcttgatgctgcctgcggagagaagaatgaatggctcc	120	
286	CACAGGGACCAAGCAGCTCGCGCTTTGTGCGGAGTTGGAGGCAATTCGACTTCCTCAACGA	345		
y				
121	cacaaggaccacaaagcagctcgcttttgtcggagttggaggcattcgacttccatacgg	180		
346	AAACTAAAGTGTGATCTGTGGATCATTGTCATCGGCCCAATGTGCTCATGTTCAC	405		
y				
181	aaactaaagtgtgatactgtgggacatttgtgaatcgggcccaatgtgctcatgggtcac	240		
b				
406	AAAAGAAGCCACACTGGAGAACGGCCCTCCAGTGCAAATCAGTGGGGCCCTCATTCACC	465		
y				

[illegible]

CC disorder. It may also be used for assessing whether a subject is at
 CC risk for an immune disorder. It is of particular use in treating a
 CC disorder of the corpus striatum.

XX Sequence 1611 BP; 375 A; 484 C; 480 G; 272 T; 0 other;

Query Match 89.18; Score 1382.4; DB 15; Length 1611;
 Best Local Similarity 99.68; Pred. No. 2.2e-300;
 Matches 1386; Conservative 0; Mismatches 6; Indels 0; Gaps 0;

QY 160 GCCAGTAATGTTAAAGTAGAGACTCAGATGATCAAGAGAAATGGGCTGTGAAATG 219
 Db 217 gccagtaatgttaaagttagagactcagagtgtatgaagagaatgggctgtgaaatg 276

QY 220 AATGGGAGAAATGTCGGAGGATTTACGAATGCTTTCATGCTCCGCGAGAGAAATGAAT 279
 Db 277 aatgggagaagtgtgaggaattttacgaatgcttctgagcctcggagagaatgaat 336

QY 280 GGCTCCACAGGACCAAGGACAGCTGGCTTTCGCGGAGTGGAGCAATTCGACTTCCT 339
 Db 337 ggctccacagaggacaagagcagctggcttctgctggagttggagcaatcgacttct 396

QY 340 AACGGAAAACTAAGTGTGATATCTGTGGGATCATTTGATCGGCGGAGTGGAGCAATTCGACTTCCT 399
 Db 397 aacggaaaaactaagtgtgatattctgtggaatcatttgcattcggcccaatgtgctcatg 456

QY 400 GTTCACAAAAGAGCCACACTCGAGAACCGCTTCCTCAAGTGCATTCAGTGGGGCCCTCA 459
 Db 457 gtccaaaaaagagccacactcgagaaagccctccagtggaatcagtcagtcgagccctca 516

QY 460 TTACCCAGAGAGGCAACCTGCTCGGACATCAAGCTCAAGCTTCGCGGAGGAGCCCTCAGG 519
 Db 517 ttacccagaagggcaacctgtcccgccacatcaagctgcatcccgggagagacccttc 576

QY 520 AATGCGCACTCTGCAACTTACGCTCGCGCGGAGGAGCCCTCAGTGGCCACTGAGG 579
 Db 577 aatgcgcaactctgcaactacgctcgcgcggagggagcgccctcaatggccactgag 636

QY 580 AGCGACTCGGTGTAACCTCACAAATGTGGATATTTGTCGCGCAAGCTATAACACGCA 639
 Db 637 agcgactcgttgtaaacctcacaatgtggaatattgtgcccgaagctataaacagcga 696

QY 640 ACGTCTTTAGAGGAACATAAAGAGCGCTGCGCACAACTACTTGGAAAGCATGGCCCTTCG 699
 Db 697 acgtcttttagaggacaataaagagcgtgcacaaactacttggaagcatgggsccttcg 756

QY 700 GCCACACTGTACCGAGTCATTAAGAAGAACTAAGCACAGTGAATGCGAGAGACCTG 759
 Db 757 ggcacactgtaccagtcatttaagaagaactaagcacagtgaatggcagaagacctg 816

QY 760 TGCAAGATAGGATCAGAGATCTCTGCTGGACAGACTAGCAAGTAAATGTCGCCAAA 819
 Db 817 tgcaagatagagatcagagagatctctcgtgtgacagactagcaagttaatgtcgccaaa 876

QY 820 CGTAAGAGCTCTATGCTCAGAAATTTCTTGGGACAAAGGCTGTCCGACAGCGCCCTAC 879
 Db 877 cgtaaagctctatgctcagaaatttcttgggacaaagggcgtcgcagacgcctac 936

QY 880 GACAGTCCACGTTACGAGAGAGAGACGAATGATGAAGTCCACGTGATGGACCAAGCC 939
 Db 937 gacagtccaagtacgagaagagagacgaatgatgaagtccaagtcgtatggaccaagcc 996

QY 940 ATCAACAAAGCCATCACTACTGGGGCGGAGTCCCTGCGCCGCTGTCGACAGCGCC 999
 Db 997 atcaacaagccatcaactacctggggcgagtccttgcgcgcgtgtgtcagacgccc 1056

QY 1000 CCGGGCGGTTCCGAGTGTCCCGGTATCAGCCCGATGTACAGCTGACAGGCGCTCG 1059
 Db 1057 ccggcggttccgagtggtcccggtatcagcccgatgtaccagctgcacagcgctcg 1116

QY 1060 GAGGACACCCCGCTCCCAACCACTCGGCGCAGGACAGCGCGTGGAGTACCTGCTG 1119
 Db 1119 gaggacaccccgctcccaacctcggcgacgagacgagcggtggagtagctgctgctg

Db 1117 gagggcaccgccgctccaccactcggccagagacagcgccgtgagtagctgctgctg 1176
 QY 1120 CTCCTCAAGGCCAAGTTGGTGCCTCGAGCGCGAGCGCTCCCGAGCAACAGCTGCCAA 1179
 Db 1177 ctctccaaagccaaagttggtgctcctcgagcgagcggtcccccagagacagctgcca 1236
 QY 1180 GACTCCACGGACACCGAGAGCAACAGAGAGAGAGCGAGCGGCTTTATCTACCTGACC 1239
 Db 1237 gactccacggacacccagagacaaacagagagcagcgagcggttcttctacctgacc 1296
 QY 1240 AACCACTCCGCCACCGCGCGCAACGGCTGTCTCAAGGAGGAGCACCAGCGCTACGAC 1299
 Db 1297 aaccacatcccccagcgcgcgaacgctgtcgtcctcaagagagacacgcgcctacgac 1356
 QY 1300 CTGCTCGCGCGCGCTCCGAGAACTCGCAGGAGCGCGCTCGGCTGCTCAGCAGCGGG 1359
 Db 1357 ctgctgcgcgcgctccggaactcgcagagcggttcccgctggtcagcaccagcg 1416
 QY 1360 GAGCAGATGAAGTGTACAGTGCAGAACACTGCGGGGTGCTCTCTGATCAGCTCATG 1419
 Db 1417 gagcagatgaaggtgtacaagtgcgaacactgcccgggtgcttctctggtacacgctatg 1476
 QY 1420 TACACCATCCACATGGGCTGCCACGCTTCCGCTGATCTCTTTGAGTGAACATGTGGGC 1479
 Db 1477 tacaccatccaatgggctgccacgcttcogtgatccctttgagtgaccatgtggcgc 1536
 QY 1480 TACCACAGCCAGAGCGGTACGAGTTCTCGTGCACATAACGCGGAGGAGCAGCGCTTC 1539
 Db 1537 taccacagccagagccggtacgagttctcgtcgcacataacgcagcgagggagcaccgcttc 1596

QY 1540 CACATGAGCTAA 1551
 Db 1597 cacatgacgtaa 1608

RESULT 6
 ID AAV42806 standard; cDNA; 1386 BP.
 AC AAV42806;
 XX
 XX 11-JAN-1999 (first entry)
 DT Human Ikaros isoform h1k-1 cDNA.
 DE
 DE Ikaros; h1k-1; transcription factor; human; lymphocyte;
 KW cell differentiation; T cell; cancer; immunodeficiency;
 KW Alzheimer's disease; therapy; diagnosis; ss.
 XX Homo sapiens.
 OS
 XX
 XX Key Location/Qualifiers
 FT exon 1..255
 FT /tag= a
 FT /number= Ex3
 FT 256..423
 FT /tag= b
 FT /number= Ex4
 FT 424..549
 FT /tag= c
 FT /number= Ex5
 FT 550..684
 FT /tag= d
 FT /number= Ex6
 FT 685..1386
 FT /tag= e
 FT /number= Ex7
 CA2194256-A.
 05-MAR-1998.
 02-JAN-1997; 97CA-2194256.

Db 703 ctgcggcacatcaagctgaactcgggtgagagcccttcaaatgccatctttgcaactat 762
QY 541 GCCTGCCGCGGAGGAGCGCCCTCACTGGCCACCTGAGGACGCACTCCGTTGGTAAACCT 600
Db 763 gctgcgcgcggagggagcgccctaccggccacctgagcgaactcgttggaagcct 822
QY 601 CACAAATGTGGATATTGGCCGAGCTATAACAGGAGACGCTTTAGAGGACATATAA 660
Db 823 cacaagtgtgatatgtggtgcggagcgtataaagcagagcgtcttttagaggagcataaa 882
QY 661 GAGCGCTGCCAACAATACTTGAAGCATGGCCCTTCGGGCGACACGTACCCAGTCATT 720
Db 883 gagcgtatcccaactacttggaagcatggccttcgggc---gtgtgccagtcatt 939
QY 721 AAAGAAGAACTAAGCAGACGTAATGGCAGAGACCTGTGCAAGATAGATCAGAGAGA 780
Db 940 aaggaagaatacaccacacagatgagcagagacgtgtgcaagacgtgtgcaagatagagcagagag 999
QY 781 TCTCTGTGTGGAGACTAGCAAGTAATGTGCCAAAGTAAGAGCTTATGCTCTCAG 840
Db 1000 tccctgtcttgagcaggtggtgcaagcaatgtgcgaacgttaagagcctatgacctag 1059
QY 841 AAATTTCTTGGGGAAGGCGCTGTCCGACACGCCCTAGCAGAGTCCACGTACGAGAG 900
Db 1060 aaatttcttgagcaggtggtgcaagcaatgtgcgaacgttaagagcctatgacctag 1119
QY 901 GAGAACGAAATGATGAAGTCCACGTCATGGACCAAGCCATCAACACGCCATCACTAC 960
Db 1120 gag---gatattgatgacatccacgtgagaccagggccatcaaatgctcaactac 1176
QY 961 CTGGGGCCGAGTCCCTGCGCCGCTGTGTCAGACGCCGCCGGGGTTCGAGGTGGTC 1020
Db 1177 ctg999ggtggttccctggtggtggtggtggtggtggtggtggtggtggtggtggt 1236
QY 1021 CCGGTCACTAGCCGATGACAGCTGCACAGS---CGTCCGAGGGACACCGCGCTCC 1077
Db 1237 ccagtcacgtccatgtaccagctgcacagcgcctccctcagatggtggtggtggtggt 1296
QY 1078 AACCACTCGCCGAGGACGCGCGTGTGTCAGACGCCGCCGGGGTTCGAGGTGGTC 1137
Db 1297 aacattcagcagga---cgccgtggtggtggtggtggtggtggtggtggtggtggt 1353
QY 1138 GTGCCCTCGGAGCGCGGCGTCCCGACACAGCTGCCAAGACTCCACGACACCGAG 1197
Db 1354 gtgtcatcgagcagagcgtccctcccgagcagcagcgtcccaagcctccacagatcacag 1413
QY 1198 AGCAACACGAGGACGAGCGAGCGGTCTTATCTACCTGACCAACACCATCGCCGAGC 1257
Db 1414 agcaacgaggaagacagcagcagcgtctatctacctaaccacacacataccacccat 1473
QY 1258 GCGC---AACGCGTGTGCTCAAGGAGGACACCGCGCTTACGACCTGCTCGCGCGCC 1314
Db 1474 gcagcaatgggtggtggtggtggtggtggtggtggtggtggtggtggtggtggtggt 1533
QY 1315 TCCGAGAACTCGAGGAGCGGTGCTCGCGTGTGTCAGCAGCAGCGGGGAGCAGATGAAGTG 1374
Db 1534 tcagagaactcgcagatgcttcctggtggtggtggtggtggtggtggtggtggtggtggt 1593
QY 1375 TACAAGTGGACACTGCGGGGTGCTTCTGTCGACATGATGTACACATCCACATG 1434
Db 1594 tacaagtgcgaactgctgcggtgctcttcgtggtggtggtggtggtggtggtggtggtggt 1653
QY 1435 -----GGCTGCGACGCTTCCGTCGTCCTTTTTCAGTGCACATGTCGGCTACCA 1485
Db 1654 ggtgtgcatggtggtggtggtggtggtggtggtggtggtggtggtggtggtggtggt 1713
QY 1486 ACCGAGGACCGGTACGAGTTCCTGTCGACATTAACGCGGAGGAGCAGCGCTTCCACATG 1545
Db 1714 agcagagcaggttacgagttctcatccatccatccatccatccatccatccatccatccat 1773
QY 1546 AGCTAA 1551
Db 1774 agctaa 1779

RESULT 9

AAV42808
ID AAV42808 standard; cDNA; 2049 BP.
XX AC AAV42808;
XX DT 11-JAN-1999 (first entry)
XX DE Mouse Ikaros isoform mik-1 cDNA.
XX KW Ikaros; mik-1; transcription factor; mouse; lymphocyte;
KW cell differentiation; T cell; cancer; immunodeficiency;
XX Alzheimer's disease; therapy; diagnosis; ss.
OS Mus sp.
XX Key Location/Qualifiers
FT CDS 223..1779 /tag= a
FT exon 223..384 /tag= b
FT FT /number= Ex1/2 385..643
FT FT /tag= c
FT FT /number= Ex3 644..810
FT FT /tag= d
FT FT /number= Ex4 811..933
FT FT /tag= e
FT FT /number= Ex5 934..1076
FT FT /tag= f
FT FT /number= Ex6 1077..1779
FT FT /tag= g
FT FT /number= Ex7
XX CA2194256-A.
XX 05-MAR-1998.
XX 02-JAN-1997; 97CA-2194256.
XX 05-SEP-1996; 96US-0711417.
XX (GEHO) GEN HOSPITAL CORP.
XX Georgopoulos K;
XX WPI; 1998-378292/33.
XX P-PSDB; AAW70966.
XX New nucleic acid encoding Ikaros protein involved in early
XX differentiation of lymphocytes - existing in several isoforms, and
XX related products, used to treat e.g. immune diseases or cancer and
XX to control cell differentiation
XX Claim 7; Page 75-77; 158pp; English.
XX This is the nucleotide of mouse Ikaros cDNA (isoform mik-1) that
XX codes for a 518-amino acid zinc finger protein (see AAW70966) that
XX is involved in the early differentiation of lymphocytes. mik-1 cDNA
XX was isolated from a mature murine T cell line E14 library using a
XX 300 bp fragment from the 3' end of mik-2 cDNA (see AAV42805) as
XX probe. 5 Different isoforms of mouse Ikaros (see AAV42805 and
XX AAV42807-10) have been identified. These arise by differential
XX splicing of Ikaros gene transcripts. Isoform mik-1 contains all 7
XX exons. It is abundantly expressed in the early foetal liver, the
XX maturing thymus and the postnatal spleen. The Ikaros gene is
XX located at the proximal arm of murine chromosome 11. Ikaros

CC proteins are suggested to play a role as a genetic switch
 CC regulating entry into the T cell lineage. The murine and human
 CC (see AAV42806, AAV42811 and AAV42840) Ikaros sequences are very similar.
 CC The invention provides Ikaros nucleic acids, vectors and host cells
 CC expressing Ikaros proteins. These are used to treat T and B cell
 CC diseases (e.g. immune deficiencies caused by drugs, radiation or
 CC cancers), to control expression of heterologous genes placed under
 CC control of an Ikaros-responsive element, and to modulate cell division,
 CC diseases (e.g. Alzheimer's disease), and especially in hematopoietic
 CC amplification or differentiation, antagonistic of others and may be
 CC cells. Some Ikaros isoforms are antagonistic of others and may be
 CC used to inhibit interaction with DNA sequences. The same effect
 CC can be achieved with the Ikaros-binding oligonucleotides. Examining
 CC the expression of the Ikaros gene, or its allelic structure, can be
 CC used to assess risk of acquiring the above diseases.

XX Sequence 2049 BP; 514 A; 531 C; 574 G; 430 T; 0 other;

Query Match 75.7%; Score 1174.8; DB 19; Length 2049;
 Best Local Similarity 87.2%; Pred. No. 7.8e-254;
 Matches 1365; Conservative 0; Mismatches 177; Indels 24; Gaps 6;

QY 1 ATGGATGCTGACAGAGGCTCAACAGATGCTTCTCTCATCAGGAGGAAGCCCGCTGTA 60
 Db 223 atggatgtcgatgaggtgcaagacatgtcccaagtttcaggaaaggagagcccccagtc 282
 QY 61 AGCGATACCTCCAGATGAGGCGCATGAGCCCATGCGCATCCCGAGGAGCCTCTCCACACC 120
 Db 283 agtgacactccagatgaaggatgagcccatgctgctccctgaggaacctgcccactacc 342
 QY 121 TCGGGAGGACCAAGCTCCCAAGAGTGCACAGTCTGCTGCGCAGTAATGTTAAAGTAGAG 180
 Db 343 tctggagcacagcagaaactccaaagatgtagcagcagcagcagcagcagcagcagcagc 402
 QY 181 ACTCAGAGTGCATCAAGAGATGGCGTGTGCTGTAATGAATGGGGAAGAATGTCGGAG 240
 Db 403 actcagatgtatgaagaaatggcgtgctgtgaaatgaatggggaagaatgtgcagag 462
 QY 241 GATTACGAATGCTGATGCTCGGAGAGAAATGAATGCTGCTCCACAGGACCAAGGC 300
 Db 463 gattacgaatgctgctgctcggagagaaatgaaaggcctcccaagggagcacaagc 522
 QY 301 AGCTCGCTTGTGCGGAGTGTGAGGATTCGACTTCTTAAACGGAATAAAGTGTGAT 360
 Db 523 agctcggtttgtcagagatgtgagcattcgacttctaaacgaaactaaagtgtgat 582
 QY 361 ATCTGTGGGATCATTTGCATCGGCGCCATGCTCATGTTTCACAAAGAGCCACACT 420
 Db 583 atctgtggatcgtttgcatcggcccaatgtgctcatggttccaaaagaagtgataact 642
 QY 421 GGAGACGGCCCTTCCAGTGCATCAGTGGGCGCTCAATTCACCCAGAGGCAACCTG 480
 Db 643 ggtgaagcgtctccagtgcaaccagctctggtggtcctcttaccagaaagcaccctc 702
 QY 481 CTCGGGCACATCAAGCTGCATTCGCGGAGAGAGCCCTTCAATGCCACCTCTGCACACTAC 540
 Db 703 ctggtgacatcaatgctgctcgtgagagccttcaaatgcaatcttggcaactat 762
 QY 541 GCTTCCCGCGGAGGAGCGCTCCTACCTGCGCAGCAGCAGCTCCGTTGGTAAACCT 600
 Db 763 gctgtccgctggagggagcgcctcaccggtccacctgagagcagcactccgttgtaagcct 822
 QY 601 CACAATGTGATATTTGGCCGAGGCTATAACAGAGGAACGGCTTTAGAGGGAACATAAA 660
 Db 823 cacaatgtgatatgttgccgagcgtataaacagcgaagcgtcttttagaggagcataaa 882
 QY 661 GAGCGCTGCCAAGTACTTGGAAAGATGGCCCTTCCGGSCACACTGTACCCAGTCAAT 720
 Db 883 gagcgtgccaactacttgaaagcagatggggttcccggtc---gtgtcccgatcatt 939
 QY 721 AAAGAGAACTAAGCAGACTGAATGCGAGAAGACCTGTGCAAGATAGGATCAGAGAGA 780

Db 940 aaggagaagaactaacacacagagatggcagaagacctgtgcaagatagagagagagagg 999
 QY 781 TCTCTGCTGCTGGACAGACTAGCAAGTAATGTGCGCAACAGCTTAAGAGCTCTATGCTCAG 840
 Db 1000 tccctgtcctggacaggtggcgaagcaatgtcgcacaaagctaaagagctctatgctcag 1059
 QY 841 AATATTTCTTGGGACAGAGGCGCTTCCGACACGCCCTAGCAGAGTGCCTACGAGAAAG 900
 Db 1060 aatattcttgagacaagtgctctgctcagacatgcccctatgacagtgcccaactatgaga 1119
 QY 901 GAGAACAAATATGATGAATGCCAGTATGCCAGCAAGCCATCAACACGCCCTCACTAC 960
 Db 1120 gag--gatatgatgacatccacgtgatgacacgagccatcaacatcccaactac 1176
 QY 961 CTGGGGCCGAGTCCCTGCGCGCGCTGTGTCAGACGCCGCCGCGGCTTCGAGGTGTC 1020
 Db 1177 ctgggggctgagtcctgctgcccattggtgcagacaccccccgttagctccaggtggtg 1236
 QY 1021 CCGGTATCAGCCCGATGTACAGCTGCACAGG---CGTCTGGAGGCGACCCCGCTCC 1077
 Db 1237 ccagtcacagctccatgtaccagctgcaagccccctcagatggccccccacaggtcc 1296
 QY 1078 AACCACTCGGCCAGGACAGCGCTGGAGTACCTGCTGCTGCTCTCCAAAGGCCAAAGTTG 1137
 Db 1297 aaccattcagcacagga---cgcctgtgataactgtgctgtgtcctcgaagccaagtct 1353
 QY 1138 GTGCCCTCGGAGCGCGAGGCTGCCCGAGCAACAGCTGCCAAGACTCCACGACCGAG 1197
 Db 1354 ggtcatcgagcagagagcctccccgagcaacagctgcaagactccacagatacagag 1413
 QY 1198 AGCAACAGGAGGACAGCGAGCGGCTTATCTACCTGACCAACACATCGCCCGACGC 1257
 Db 1414 agcaacggtggagaaacagcagcagcgtcccttatctacataccacacacacatcaacccgcat 1473
 QY 1258 GGCG---AAGCGCTGTGCTCAAGGAGGAGCACCGCGCTTACGACTTGTGCGCGCGCGCC 1314
 Db 1474 gcaacgcaatggcgtgctcctcaagagagcagcagcgtcagcaggtgctgagggcgcc 1533
 QY 1315 TCGGAACTCCGAGGAGCGCTCCGCTGGTTCAGCAGCGGCGGAGCAGATGAAGTG 1374
 Db 1534 tcagaaactcgcagagatgctcctccgtgtggtcagcagagtggtgagcagcagtgaggtg 1593
 QY 1375 TACAAGTGGCAACACTTCCGCGTGTCTTCTGATCAGCTCAGCTACACCATCCACATG 1434
 Db 1594 tacaagtgcgaacactgcgcgtgctctcttgatcagcgtcagcgtatcaccatccatg 1653
 QY 1435 -----GGTGGCCAGCGCTTCCGTGATCCTTTTGTAGTCAACATGTGCGGTACAC 1485
 Db 1654 ggtgcacatggctgcacatggcttcgggacccctttgagtgtaacatgtgtgttaccac 1713
 QY 1486 AGCAGGACCGGTACGAGTTCGTGCGCACATTAACGCGAGGAGGAGCAGCTTCCACATG 1545
 Db 1714 agccagagacaggtacaggttctcctccatccatccatccatccatccatccatccat 1773
 QY 1546 AGCTAA 1551
 Db 1774 agctaa 1779

RESULT 10

AA16065
 ID AA16065 standard; cDNA; 1004 BP.

XX AA16065;

XX 09-MAY-1996 (first entry)

DE Ikaros cDNA.

XX Ikaros; transgene; transgenic animal; transgenic mouse;
 KW immunocomprised; immune system disorder; nervous system disorder;
 KW animal model; ss.



